

Science Department

C541 General Science
1 Semester 1 Credit

This course is designed to help students adjust to the rigor of high school science especially the demands of Regent's science courses. It will offer help in the areas of note taking, organization, study skills, and test taking skills. The course starts with the basic overview of science in general. The course will then cover introductory topics in Life Science, Physical Science, Earth Science, Astronomy, and Space Exploration. This course is designed to help students learn to deal with lab requirements and deadlines. The course will present basic vocabulary and introductory knowledge of each of these sciences. The students will learn to deal with intensive scheduling, especially in a science environment and learn to adapt to the overall pace that most science classes have at the high school level. After this class students should be able to move on to a Regent's Earth Science class or a Regent's Biology class.

C550 Earth Science
1 Semester 1 Credit

Earth Science is recommended for all students. Topics studied include geology, meteorology, and environmental awareness. The intent of this course is to develop an appreciation of the planet Earth as well as develop the required science skills that will be used in biology, chemistry, and physics. Evaluation is based on quizzes, tests, assignments, class participation, laboratory experience, and a final exam.

C640 General Biology
1 Year 1 Credit

General Biology is designed for non-science majors who would require a high school biology course. This course is intended for the average student whose interests and goal may be different from those who take the Regents Biology course. The course consists of five basic topics: Life Functions; Systems of the Human Body; Continuation of Life; The Green Plants; and Classification and Evolution. Classes meet one period daily. Evaluation is based on quizzes, assignments, class participation, laboratory experience, and unit tests. A school examination is given at the conclusion of the course.

C641 Astronomy/Historical Geology
1 Semester 1 Credit

Astronomy is designed for the student who is interested in space exploration, planetary characteristics, and stars. It is the intent of the course to discuss and discover basic astronomical concepts and observe how they relate to potential jobs in the field of astronomy. The course requires various trips which demonstrate classroom concepts in the "real world". Experiences utilizing a "planetarium" will also be included. Evaluation is based on quizzes, tests, assignments, class participation, trip participation, and a final exam.

Historical Geology is designed to acquaint the student with the geological history of North America, particularly that of New York State. This would include major groups of fossil organisms,

their evolutionary history, and patterns of distribution. The course will also introduce students to methods of geological investigation within the framework of major theories prevailing in the field. Evaluation will be based on lab work, discussion, a comprehensive paper, quizzes, and a final exam.

Prerequisite: Earth Science

C650 Living Environment (Biology)
1 Semester 1 Credit

The Regents Biology program is primarily intended for those pupils who have an average or above average interest in Science and who are reading at or above the tenth grade level. It is the intent of the course to provide pupils with an awareness of the natural world, basic scientific concepts, stimulation of inductive reasoning, and a basic understanding of biological processes and generalizations. The course consists of a basic core of seven units: The Study of Life; Maintenance in Animals; Maintenance in Plants; Reproduction and Development; Transmission of Traits from Generation to Generation; Evolution and Diversity; and Plants and Animals in their Environment. Evaluation is based on quizzes, assignments, class participation, laboratory experience, and unit tests.

C740 General Chemistry
1 Semester 1 Credit

General Chemistry is a study of similarities and dissimilarities of matter. Substances are prepared and separated. The mathematics of chemistry has been de-emphasized and replaced by a practical approach to the study of chemistry for the average student. The final exam is a local exam prepared by the teacher.

C750 Chemistry
1 Semester 1 Credit

This course is an intensive study of matter: the properties, uses, and the changes that different kinds of matter undergo. Modern theory and principles and their applications through experimentation, understanding of the elements, calculations, solutions, metals, and nonmetals along with nuclear and organic chemistry are also covered. It is strongly recommended that the student complete Math 2 before taking Regents Chemistry. Students should expect at least a half hour of homework nearly every night. It is expected that students will come to the class being able to solve algebraic expressions and complex word problems.

Prerequisite: Math 1

C752 North American Wildlife
1 Semester 1 Credit

This course will deal with an in depth look into the world of our North American wildlife. Students will study the behaviors, habitat, diet, mating, history, range, abundance, and ecological importance of some of our most interesting wildlife. CD-ROM, video, discussion, reading, and writing will be some of the teaching techniques used.

Prerequisites: Two years successful completion of any core curriculum science classes (i.e., Earth Science, Biology, Chemistry, Physics).

C840 General Physics
1 Semester 1 Credit

The aim of general physics is to provide a humanistic approach to the study of physics in which fundamentals are developed. It is designed for those students not majoring in science in college who wish to learn more about the scientific aspects of the world they live in. The content emphasizes laboratory activities and is divided into several basic core areas: motion, sound and light, electricity and magnets. Evaluation will be labs, problems, and tests.

C850 Physics
1 Semester 1 Credit

Regents Physics is a laboratory based physics course that grants Regents credit. Topics covered are Mechanics, Motion In a Plane, Work and Energy, Electricity and Magnetism, Wave Phenomena, and Modern Physics. The emphasis on laboratory projects and physical reasoning will help students develop critical thinking skills.

Prerequisite: Regents Chemistry

C851 Anatomy & Physiology
1 Semester 1 Credit

Anatomy and Physiology is designed for high ability senior students. It is an intensive study of anatomy, physiology, and genetics such as might be found in freshman college courses. This course is of particular value to students entering nursing and other health related fields. Classes meet daily. Students are also expected to read articles from current literature. Student grades are determined from general classroom performance, topic quizzes, and major unit tests. A final examination is given at the end of the course.

Prerequisite: Regents Biology and Regents Chemistry

C890 ACE Biology
2 Semesters 2 Credits (HHS)
CCC BIOL 1510-1520

The ACE Biology course is the first year of college biology. The ACE course should be taken only after the successful completion of the Regents Biology and Chemistry courses and concurrently with Physics. Students will earn one unit of high school credit and eight semester hours of credit if registered with Corning Community College. Some students may choose to complete the AP exam. Evaluation is based on chapter quizzes, lab practicums, hourly exams, an individual research project (second semester), and a final exam.

Prerequisite: Regents Biology and Regents Chemistry

C891 ACE Chemistry
2 Semesters 2 Credits (HHS)
CCC CHEM 1510-1520

The ACE Chemistry course is the first year of college chemistry. The ACE course should be taken only after the successful completion of the Regents Chemistry course. It is highly desirable that a student has a course in secondary school physics and a four year college preparatory program in

mathematics. A comprehensive final is given at the end of the first semester (January) and an American Chemical Society exam is used as a comprehensive final at the end of the second semester (June). The final grade is determined by exam grades, quiz grades, lab grades, lab exams, and the final exams. A student may opt to take the AP exam in Chemistry in May.

Prerequisite: Regents Chemistry, Math 3

C892 ACE Physics
1 Semester 1 Credit (HHS)
CCC PHYSICS 1820

The ACE Physics course is designed to be the equivalent of a general physics, calculus based, course usually taken during the final semester of college. Classes meet daily. A school examination is given at the conclusion of the course. The evaluation is based on problem sets, lab work, tests, periodic quizzes, and 10 week exams.

Prerequisite: Regents Physics and ACE Calculus or concurrent enrollment in ACE Calculus

C010 Marine Biology
1 Semester 1 / 2 Credit

The emphasis of this course will be the impact of humans on the ecology of the marine ecosystem, especially that of the tropical regions and coral reefs. The objective of this course will be to develop an understanding of marine biology. Such an understanding is fundamental to the appreciation, preservation, and protection of marine environments worldwide. This course will emphasize the connection between marine systems, biological processes, and global health by building a working knowledge of what the field of marine biology emphasizes.

Topics to be covered in this course include: salt water marshes and estuaries; mangroves, sea grass beds, and tropical lagoons; coral reefs and associated marine communities; intertidal zones and tidal communities; and oceanic pelagic biome. Evaluation will be based upon periodic exams and short quizzes. Essays will also be assigned to help develop scientific literacy.

This course is open to grades 10 – 12. It is recommended that students complete the Living Environment course before enrolling in this course as this course will be instructed based upon a working knowledge of basic biological concepts.

C011 Zoology
1 Semester 1 / 2 Credit

The emphasis of this course will be to study animal biology especially those animal groups of most interest to students. The overall objective of this course will be to explore the vast diversity present in the animal kingdom. Doing a survey of the major animal groups as well as an examination of “how animals works” will approach this.

The course will be divided into two major units: Invertebrate and Vertebrate Zoology. Evaluation will be based on periodic exams and short quizzes as well as short essays to help develop scientific literacy. This course is open to students in grades 10 – 12.

Prerequisite: Biology